

Faraday's Electromagnetic Lab Simulation  
AP Physics

21 Points Total

'Pickup Coil' Tab

1. Under what conditions does the light become the brightest possible? (2 points)
2. Under what conditions does the light turn on a minimum amount? Another way of asking this question is, what must happen for the light to barely turn on? (2 points)
3. How does the loop size and number of loops affect the brightness of the light? (2 points)

'Electromagnet' Tab

4. With the field meter, determine the placement of the maximum magnetic field. What is the value, and where is it located? (2 points)
5. What effect does changing the slider on the battery from the far right to the far left have on the direction of the magnetic field? (2 points)
6. What effect does the ac voltage source have on the magnetic field? (2 points)
7. What effect does the number of coils have on the magnetic field? (2 points)

'Generator' Tab

8. Explain how a generator makes the bulb produce light, discussing the role of the rpm, magnetic field, magnet strength, and loop area. (5 points)